

The logo for BetterBuiltNW features the word "Better" in dark blue, "Built" in orange, and "NW" in dark blue. A large orange L-shaped graphic is positioned to the left of the text.

**BetterBuilt<sup>NW</sup>**

***Building Champion  
Raters***

Neil Grigsby & Dan Wildenhaus

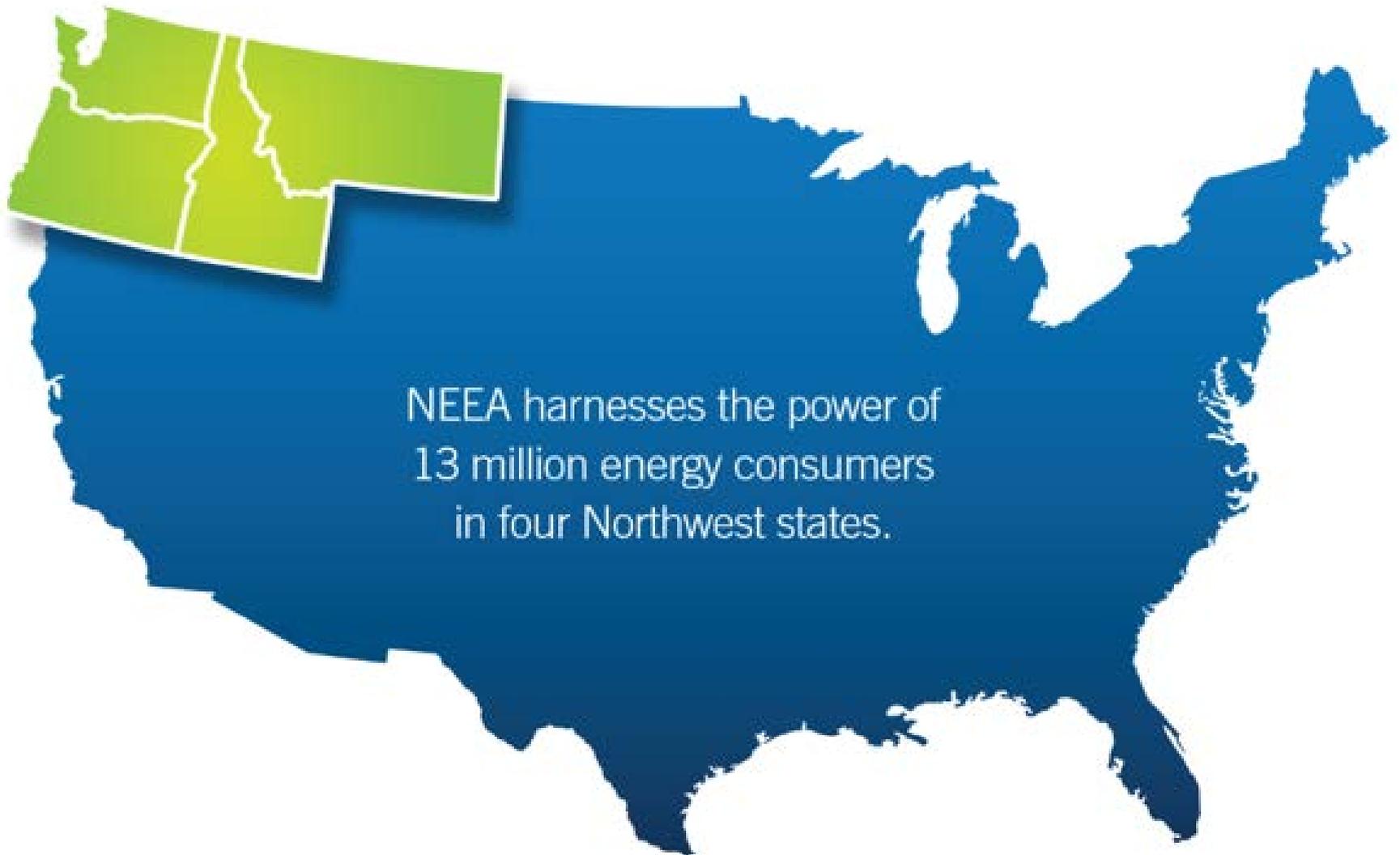
2016 ENERGY STAR Partner Meeting

# Agenda

- Goals of NEEA and alignment with creating a robust Rater network
- Early efforts to build the Rater network in the NW
- The height of NWESH market share and how Raters contributed to it
- Impact of NW success and increasing code
- Questions and fun stuff

A photograph of two construction workers on a building site. The worker on the left is wearing a white hard hat, a light blue shirt, and dark pants, pointing towards the wooden framing of a building. The worker on the right is wearing a blue shirt, blue jeans, and a tan tool belt, looking at the worker on the left. The background shows the wooden skeleton of a building under construction against a clear blue sky. A dark grey rectangular box with the text 'The Cause' is overlaid on the image, with an orange square to its left.

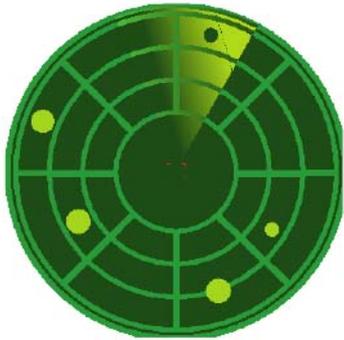
# The Cause



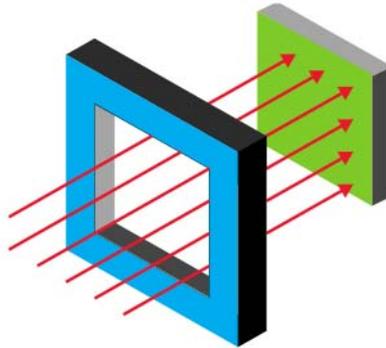
NEEA harnesses the power of  
13 million energy consumers  
in four Northwest states.

# How We Work

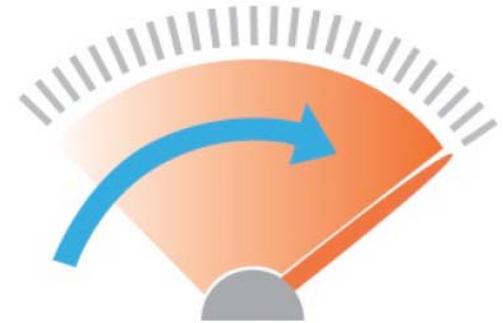
*IDENTIFY BARRIER/  
OPPORTUNITY*



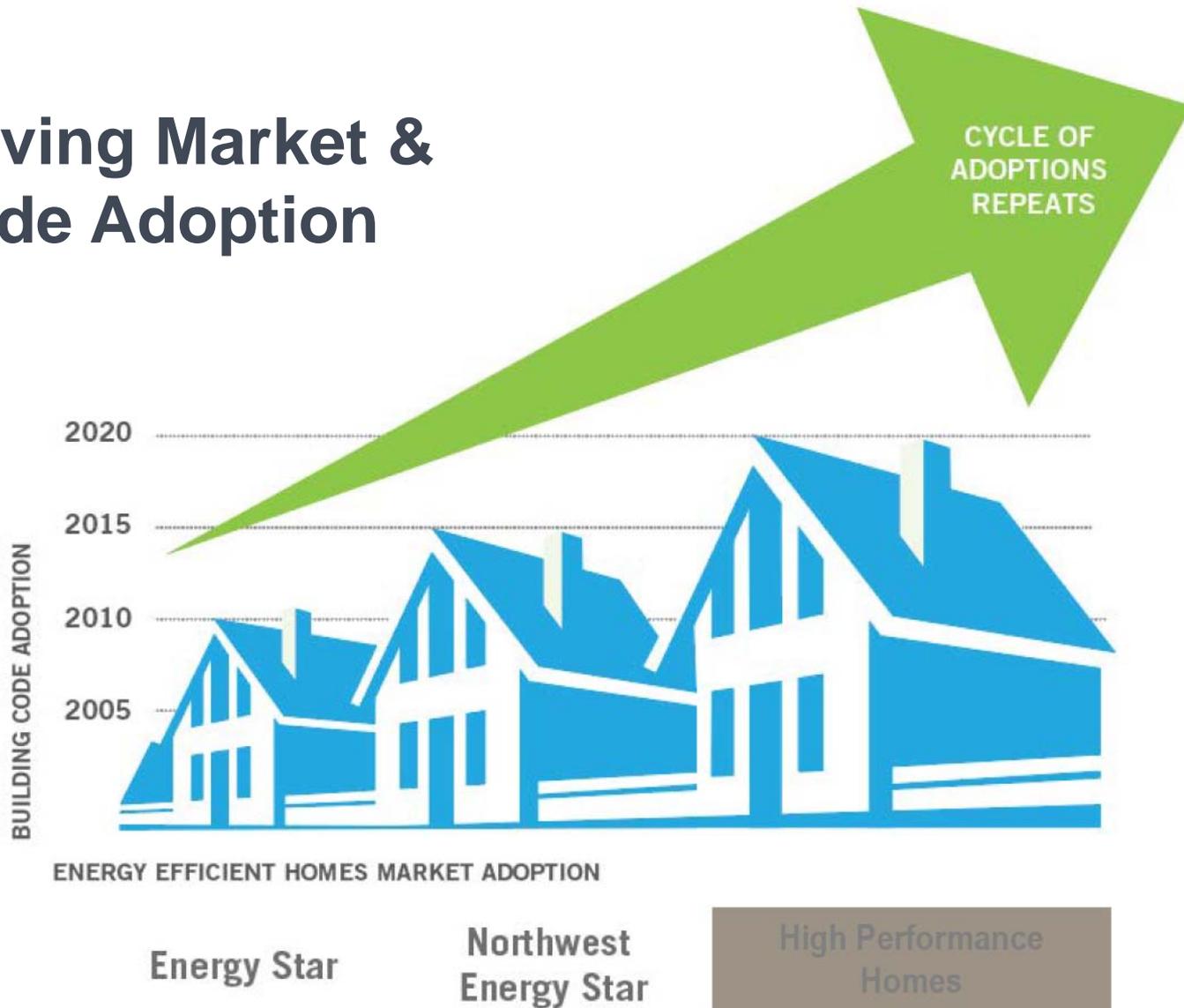
*INTERVENE TO REMOVE  
OR LEVERAGE*



*TRACK AND EVALUATE  
MARKET PROGRESS*



# Driving Market & Code Adoption



# Northwest ENERGY STAR Homes

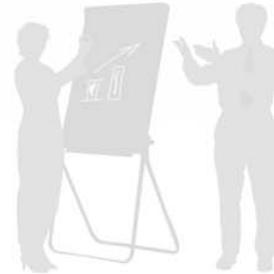
## IDENTIFY BARRIER



CONFUSION



## MARKET INTERVENTION



CLARITY

## MARKET PROGRESS



SUCCESS



# The Raters

# The early days

## Transitioning from Verifiers to Raters

Early prescriptive program 2004-2011

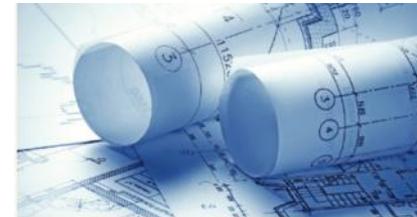
- Verifiers

Transition to performance program 2012

- “Otherwise approved” Verifiers

National program alignment 2015

- Raters and RFIs



# Trying something new

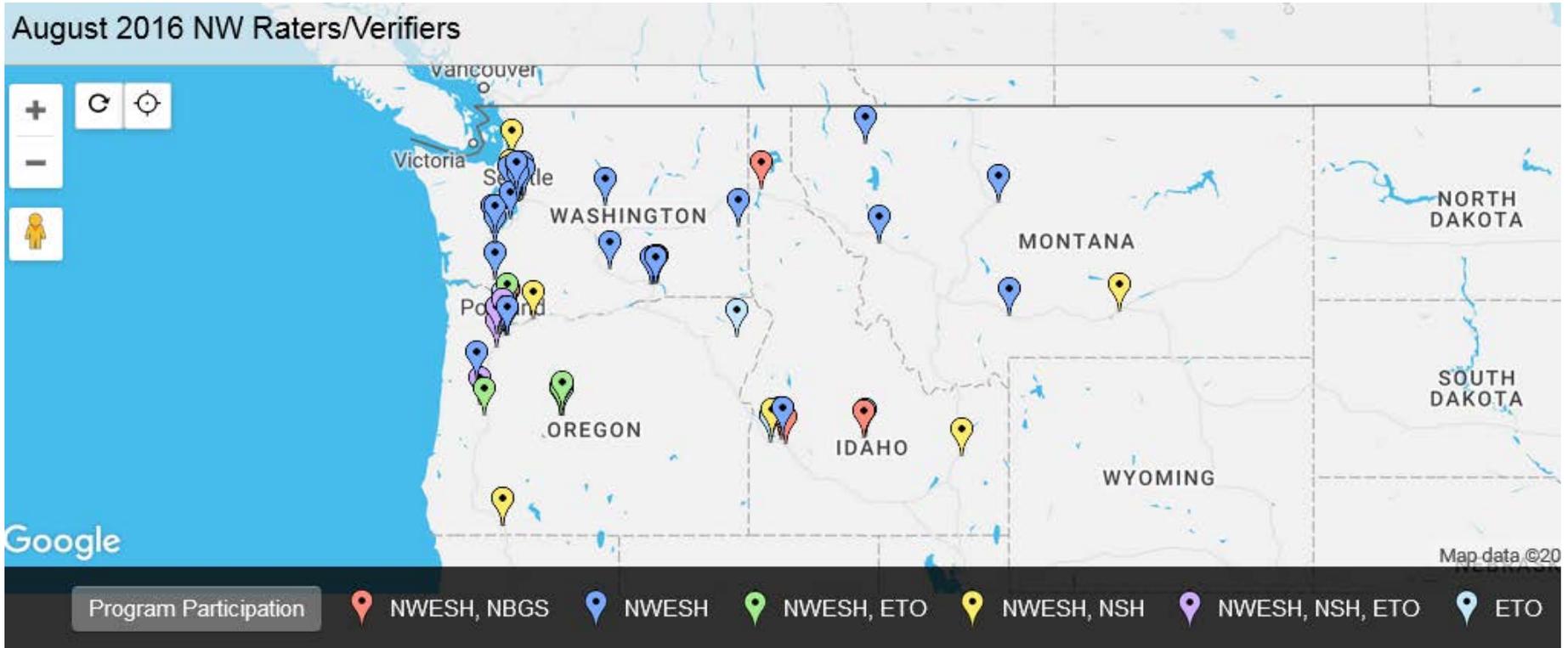
## The “what if” scenario

What if:

- We provided dedicated training and mentoring to a Rater in a “hot market”
- We answered the phone every time the Rater asked questions
- We accompanied site visits and integrated design meetings with the Rater
- We provided connections to market actors, manufacturers, and utilities



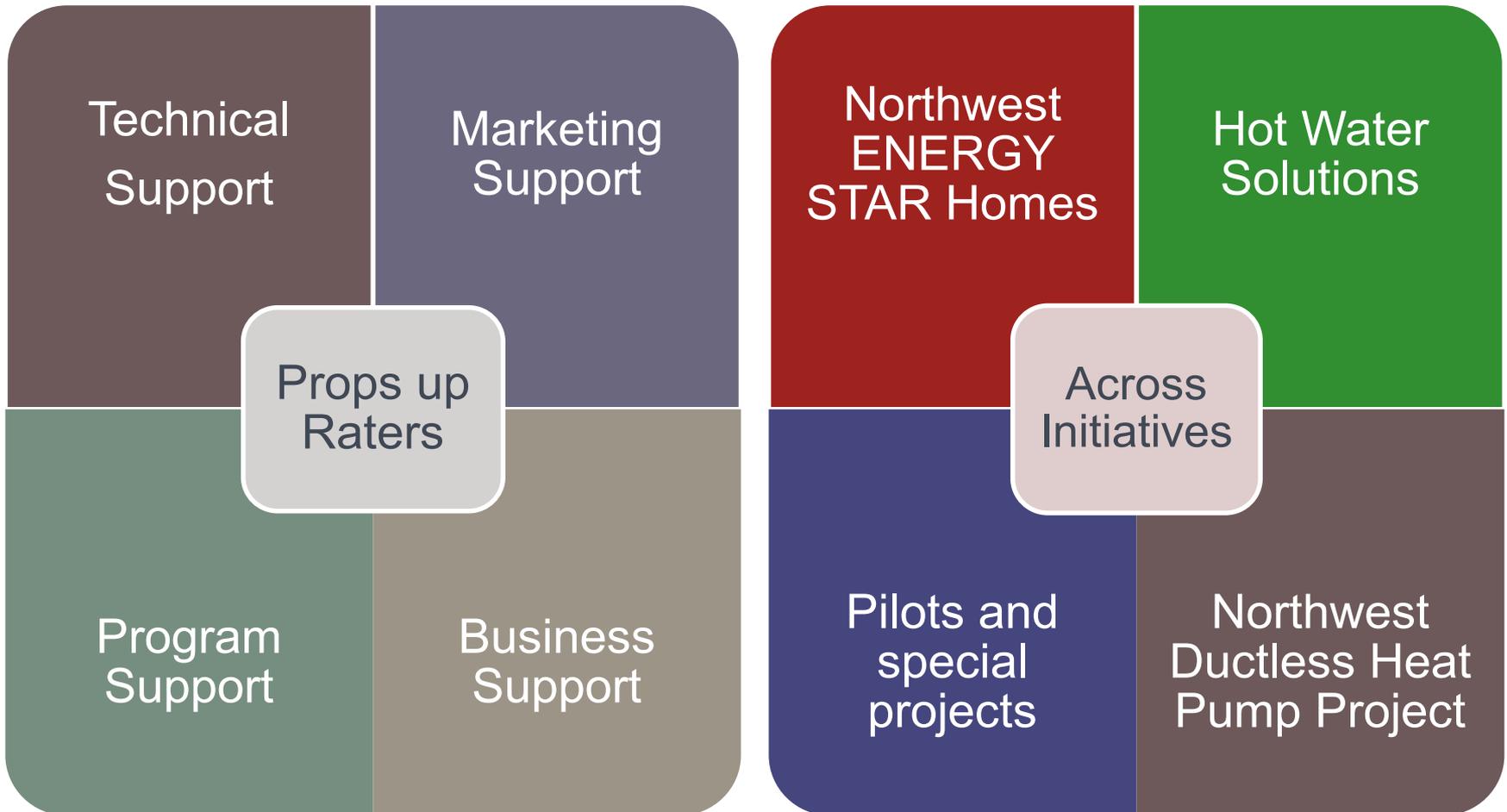
# Robust, diverse network



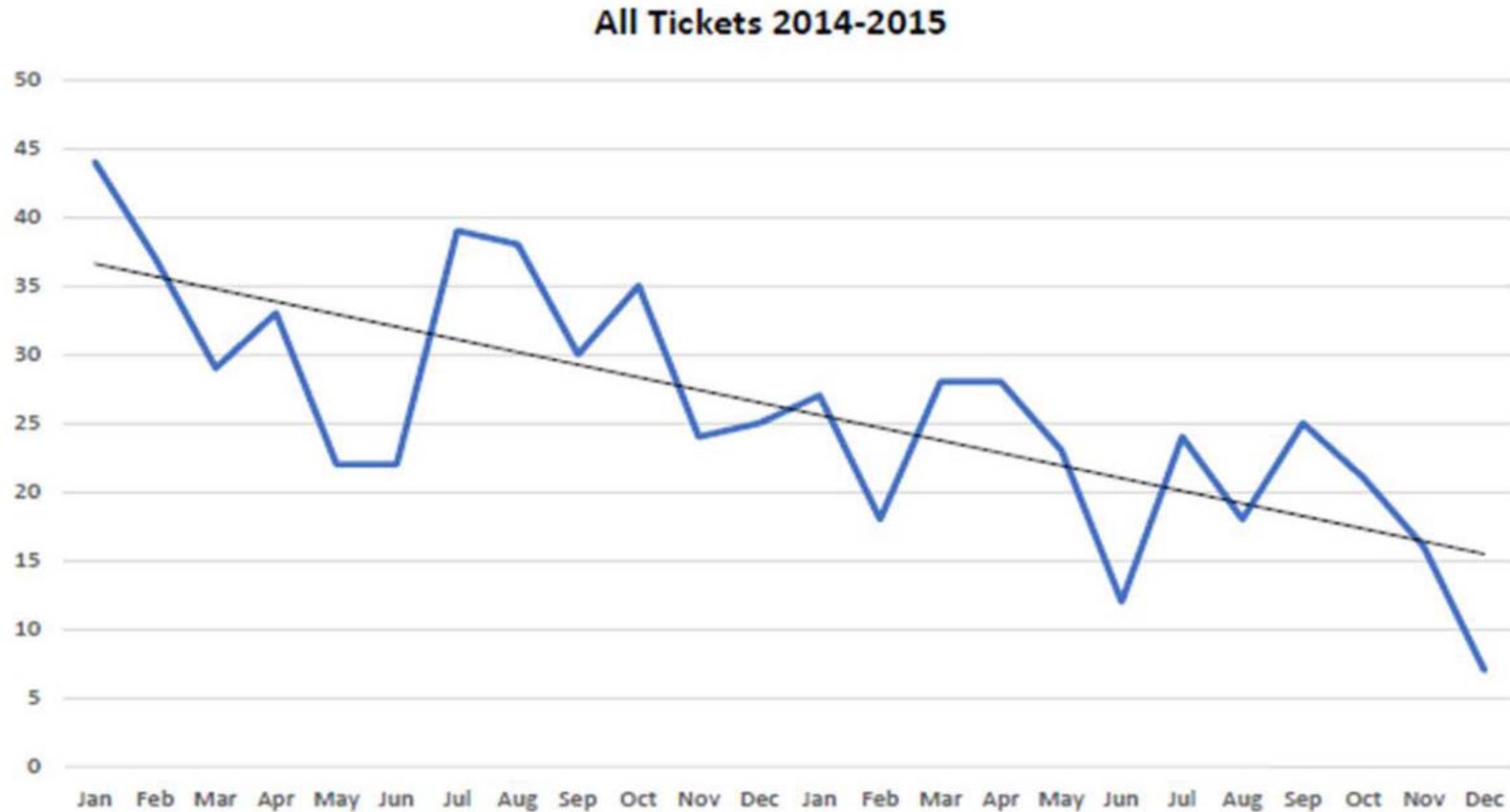
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# The Partnerships and evolving support

# Support *TO* Raters and *FROM* NEEA



# Changing database functionality



# And don't forget about modeling!

REM/Rate v 14.6.1 Northwest - Untitled.blg

File Building View Extras Libraries Reports Tools Help

Building Name:

Property Information:

Owner's Name:

Property Address:

City:

State:  Zip:

Phone Number:

Builder Information:

Builder's Name:

Builder's Address:

Builder's Email:

Phone Number:

Plan/Model Name:

Community/Development:

Permit Date/Number:



## Modeling Guidelines for Northwest REM/Rate™

Updated July 1, 2015

The Northwest ENERGY STAR® Homes program, in collaboration with NORESCO, has developed a Northwest version of the REM/Rate™ modeling software that has been adjusted for closer alignment with regionally accepted values. To qualify for Northwest ENERGY STAR certification, all single-family homes must be modeled in Northwest REM/Rate. While builders have some flexibility in constructing their homes to meet the program requirements, Raters must follow specific guidelines for data entry in addition to the standard REM/Rate protocol. This ensures that certified homes meet or exceed the minimum performance requirements of the Northwest ENERGY STAR Reference Home for your state.

### How does the Northwest version of REM/Rate differ from the national version?

- The Northwest version compares the modeled home with state-specific reference homes
- Foundations have been restricted to the following four types:
  - Slab
  - Enclosed Crawlspace
  - Conditioned Basement
  - Unconditioned Basement
- Window areas locked with preset minimums
- Shading factor inputs for windows locked to preset values
- Ground contact, duct leakage, infiltration and heat pump behavior models adjusted for closer alignment with regionally accepted values based on calibrated software
- Tankless water heaters de-rated for consistency with DOE/RTF recommendations
- DHW gal./day consumption overridden to regionally accepted values
- HRV/ERV efficiency input set to align with regionally accepted values

### What guidelines must Raters follow when modeling their homes?

- The Northwest version of REM/Rate must be used to determine compliance for Northwest ENERGY STAR Home certification. The version can be identified by checking for "Northwest" at the header of the software following the version of REM/Rate.



# Technical Marketing

## Supporting Market Transition/Development

### Verifier Tool Kit

- Thermal Enclosure Best Practices Poster
- Technical FAQ Guide
- Ductless in New Construction Flyer
- Program Technical Overview
- Multifamily Certification
- Performance Path

**PERFORMANCE PATH**  
Now Available

**INTRODUCING THE NORTHWEST ENERGY STAR® HOMES PERFORMANCE PATH**

The Performance Path is a compliance method that allows builders to select a custom combination of measures that are equivalent in performance to the corresponding state-level Northwest ENERGY STAR Homes Builder Option Package.

**Benefits to Builders**  
The Performance Path provides flexibility when designing buildings to qualify for Northwest ENERGY STAR certification, enabling builders and Raters to test a greater variety of trade-offs. This flexibility allows Raters to compare multiple packages to find the most cost-effective options for builders.

**Performance Path Applications**  
Reports from Northwest REM/Rate can be used to qualify for federal and state tax credits, and builders using the REM/Design™ for design work and code compliance can use the same building file or Northwest REM/Rate to qualify for Northwest ENERGY STAR certification. The Performance Path can also be used to qualify for other certification programs, as the home is given a Home Energy Rating System (HERS) score as part of the process.

**Performance Path Eligibility**  
Builders are required to work with a Northwest ENERGY STAR Homes qualified HERS Rater who has been certified under RESNET. For a list of program-approved Raters, please visit: [northwestenergystar.com/partners](http://northwestenergystar.com/partners).

**Sampling Eligibility**  
Large production builders may be eligible for Northwest ENERGY STAR certification with testing completed on a sampled set of homes with the same floor plan. Ask your Rater for sampling options and requirements.

To learn more about the Northwest ENERGY STAR Homes Performance Path, or to get started, visit: [northwestenergystar.com/partners](http://northwestenergystar.com/partners)

# Better access to training

Regional RESNET  
Conference!

2012 Boot Camp – Seattle

2013 Boot Camp – Boise

2014 Boot Camp – Bend

2015 Home Efficiency  
Forum – Portland

2016 Home Efficiency  
Forum - Spokane



# Home Certifications Programs



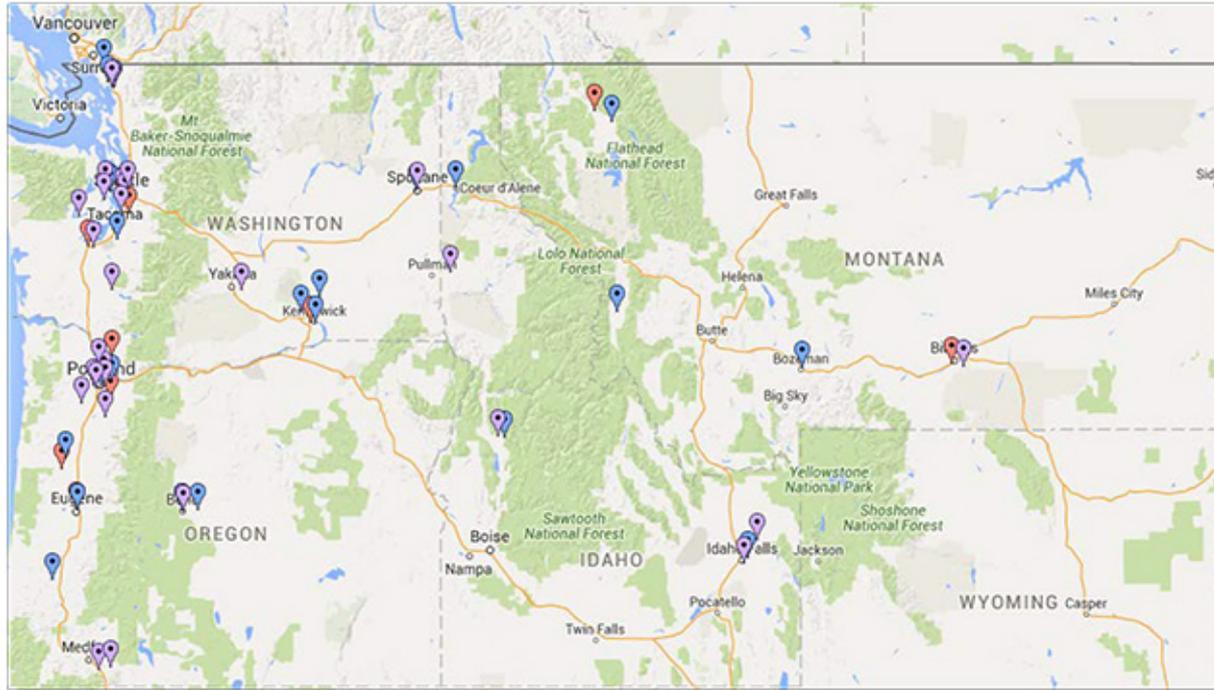
LIVING  
BUILDING  
CHALLENGE





# The Impact

# Next Step Home Pilot Program



# Rater Accuracy study/training

## BACKGROUND AND SCOPE

### NEEA Pilot Rating Project

- In Q1 of 2015, NEEA asked Raters throughout the region to model a common set of homes based on plans and specs provided
- 12 homes in various Northwest locations
- 8 Raters participated
- The pilot team performed an independent set of models, which were included in the data set

## CENTRAL QUESTION

What does it take to model “utility-grade” savings estimates in REM/Rate™ at a regional scale?

## GOALS

- Quantify model variability introduced by Rater modeling practices, identify gaps in existing guidance
- Use the findings to improve model consistency, accuracy, and fill gaps in existing modeling guidance

# Fine tuned Rater training



## Pre-Construction Su

Efficient Homes Pilot | July 22, 2015



## COMMISSIONING FOR SUCCESS

Efficient Homes Pilot | December 3, 2015



## CALCULATING PI

Efficient Homes Pilot | September 23,



# Raters stepping up

Evergreen Certified –  
Tadashi Shiga

Sustainable Homes  
Consulting LLC => Tri  
Cities HBA –  
Jonathan Jones

Building Energy –  
Ingo Stroup



# Performance Protocol

## Primary Goal

–Align all market actors—utilities, REALTORS®, builders, Raters, MLS providers, financiers, homebuyers—with a metric that *differentiates homes based on annual energy consumption.*

## Objectives

- Easy for Utilities to capture savings
- Framework for Builder Training
- Improve New code opportunities

## Utility Grade Savings

A group of Documents that describe how Raters (and utility staff) generate energy savings estimates using REM/Rate™

- Modeling Guidelines
- Minimum design requirements
- Quality assurance requirements
- Calibration to field data
- Research Plan



# The destination

**BetterBuilt<sup>NW</sup>**

# What is BetterBuiltNW?

## Role of BetterBuiltNW

- Online resource for residential new construction market actors
- Serves as a platform to accelerate market adoption of energy-efficient products and practices
- Plays a supporting role by equipping market actors with tools and knowledge required to drive energy efficiency in the market
- Provides value to regional partners and stakeholders

# BetterBuiltNW Communications

## e-Newsletter

**BetterBuilt<sup>NW</sup>** MONTH 00, 0000



**NEWSLETTER**  
TITLE



**Article Headline Here**  
Evellessit endae net aut poreptis et utempel molorit, eictem cum latusae neceatem. Genistis dolo omnihic ilique laut omniet late comnis ini re sim ne cullorp oreceaturem quaecto. Evellessit endae net aut poreptis et utempel molorit, eictem cum latusae neceatem. Genistis dolo omnihic ilique laut omnie.

[Link here to read full article text >](#)

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[Link here to read full article text >](#)

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<a href="#">Link here to read full article text &gt;</a>	<a href="#">Link here to read full article text &gt;</a>	<a href="#">Link here to read full article text &gt;</a>

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## Training Email

**BetterBuilt<sup>NW</sup>** MONTH 00, 0000



**CAMPAIGN TITLE HERE**  
Medium Length Email Headline Here

City, ST

Salutation,  
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Closing,  
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## Bulletins

**BetterBuilt<sup>NW</sup>** MONTH 00, 0000



**BULLETIN**

**Headline Here**  
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**BetterBuiltNW** | 100 SW Main Street, Suite 1500 | Portland, OR 97204

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# Home Efficiency Forum

## HOME EFFICIENCY FORUM 2016

October 12 – 14 | Spokane, WA

### CONFERENCE AGENDA

Salon I
Salon II
Salon IV

Wednesday, October 12			
6:00–9:00 pm	Opening Reception and Early Conference Check-in		
Thursday, October 13			
8:00–9:00 am	Hosted Breakfast		
9:00–10:00 am	Keynote Address: Looking at Tomorrow Today (1.5 BPI CEU) John Tooley, Advanced Energy		
10:00–10:15 am	Break		
10:15–11:30 am	<table border="1"> <tr> <td>Built Green Homes: How Much Electricity Do They Actually Use? (1.5 BPI CEU) Leah Misak, Built Green, Master Builders Association</td> <td>The IAQ Marketing Challenge in New Construction (1.5 BPI CEU) Peter Troast, Energy Circle</td> </tr> </table>	Built Green Homes: How Much Electricity Do They Actually Use? (1.5 BPI CEU) Leah Misak, Built Green, Master Builders Association	The IAQ Marketing Challenge in New Construction (1.5 BPI CEU) Peter Troast, Energy Circle
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11:30–10:45 am	Break		
11:45 am–12:30 pm	<table border="1"> <tr> <td>ENERGY STAR® in the Northwest Rick Gazica, ICF International Preston Kuckuck, Performance Insulation</td> <td>Residential Building Solutions with Variable Refrigerant Flow (VRF) Mini-split Systems Greg Davenport, Mitsubishi Electric Kimberly Llewellyn, Mitsubishi Electric</td> </tr> </table>	ENERGY STAR® in the Northwest Rick Gazica, ICF International Preston Kuckuck, Performance Insulation	Residential Building Solutions with Variable Refrigerant Flow (VRF) Mini-split Systems Greg Davenport, Mitsubishi Electric Kimberly Llewellyn, Mitsubishi Electric
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12:30–1:30 pm	Hosted Lunch		
1:30–3:00 pm	<table border="1"> <tr> <td>Leveraging Adult Learning Principles to Add Value to Your Builders (1.5 BPI CEU) BW Taylor, Advanced Energy Dan Wildenhaus, CLEARResult</td> <td>HRVs and Central Air Handler Integration (1.5 BPI CEU) Bruce Manclark, CLEARResult</td> </tr> </table>	Leveraging Adult Learning Principles to Add Value to Your Builders (1.5 BPI CEU) BW Taylor, Advanced Energy Dan Wildenhaus, CLEARResult	HRVs and Central Air Handler Integration (1.5 BPI CEU) Bruce Manclark, CLEARResult
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3:00–3:30 pm	Break		
3:30–5:00 pm	<table border="1"> <tr> <td>Panel: Energy-Efficient Home Valuation Through Data Centralization and Sharing (1.5 BPI CEU) Bob Burns, Pivotal Energy Solutions Fiona Douglas-Hamilton, SEEC LLC Michael Atkins, Earth Advantage Moderator: Shaun Hassel, Advanced Energy</td> <td>Super-Insulated Walls (1.5 BPI CEU) Thomas Anveise, CLEARResult</td> </tr> </table>	Panel: Energy-Efficient Home Valuation Through Data Centralization and Sharing (1.5 BPI CEU) Bob Burns, Pivotal Energy Solutions Fiona Douglas-Hamilton, SEEC LLC Michael Atkins, Earth Advantage Moderator: Shaun Hassel, Advanced Energy	Super-Insulated Walls (1.5 BPI CEU) Thomas Anveise, CLEARResult
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5:30–9:00 pm	Home Efficiency Forum After Dark at Steam Plant (Commons Room)		

Friday, October 14			
8:00–9:00 am	Hosted Breakfast		
9:00–10:30 am	<table border="1"> <tr> <td>New Multifamily Building, From Above Code to Zero-Energy Ready (1.5 BPI CEU) Jens Kincakt, Bonneville Power Administration</td> <td>Equipment Selection for Modern Times (1.5 BPI CEU) Mark Jerome, CLEARResult</td> </tr> </table>	New Multifamily Building, From Above Code to Zero-Energy Ready (1.5 BPI CEU) Jens Kincakt, Bonneville Power Administration	Equipment Selection for Modern Times (1.5 BPI CEU) Mark Jerome, CLEARResult
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2:15–2:45 pm	Break		
2:45–3:45 pm	<table border="1"> <tr> <td>Closing Session PANEL: Demystifying Home Certification Programs in the Northwest (1.5 BPI CEU) Moderators: Neil Grigsby, Northwest Energy Efficiency Alliance Matthew Christie, TRC Energy Services</td> <td></td> </tr> </table>	Closing Session PANEL: Demystifying Home Certification Programs in the Northwest (1.5 BPI CEU) Moderators: Neil Grigsby, Northwest Energy Efficiency Alliance Matthew Christie, TRC Energy Services	
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### Map of Conference Location and Floor Plan





**Questions?**



# THANK YOU

The BetterBuiltNW Team

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Or find us on LinkedIn!